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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte BROCK ESTEL OSBORN, RADU EUGEN NEAGU,
ALISSA BETH KRUPAR, JOHN ERIK HERSHEY, KATI ILLOUZ,
CARL HAROLD HANSEN, MELVIN CRAIG EDGAR JR.,
JAMES ERNEST DOCKEDORFF, and DONALD LEE GARDNER

Appeal 2008-1377
Application 09/897,556
Technology Center 2100

Decided: September 30, 2008

Before JAMES D. THOMAS, JOSEPH L. DIXON,
and THU A. DANG, *Administrative Patent Judges*.

THOMAS, *Administrative Patent Judge*.

DECISION ON APPEAL

This is an appeal under 35 U.S.C. § 134(a) from the Examiner's final rejection of claims 1 through 4, 12 through 28, 36 through 46, 48 through 53, and 55 through 57. We have jurisdiction under 35 U.S.C. § 6(b).

As best representative of the disclosed and claimed invention,
independent claim 1 is reproduced below:

1. An interactive graphics-based system for performing a reliability analysis on a system having a plurality of subsystems and a plurality of components within each subsystem, comprising:

a processor for executing instructions;

a memory for storing instructions and data;

a display device; and

an interactive graphics-based tool, comprising:

a hierarchical representation component that organizes the system and the plurality of subsystems and components into a hierarchical representation;

an interactive selection component that provides a plurality of options for analyzing the hierarchical representation;

a reliability analysis component, responsive to the hierarchical representation component and the interactive selection component, that performs a reliability analysis at any level of the hierarchical representation; and

a visualization component that provides a movie mode display of the reliability analysis.

The following references are relied on by the Examiner:

Goyal	US 5,625,575	Apr. 29, 1997
Gross	US 5,774,379	Jun. 30, 1998
Weinstock	US 6,223,143 B1	Apr. 24, 2001
Wegerich	US 2002/0183971 A1	Dec. 5, 2002 (filing date Apr. 10, 2001)

Cook	US 6,546,378 B1	Apr. 8, 2003 (filing date Apr. 24, 1997)
Willoughby	US 6,549,880 B1	Apr. 15, 2003 (filing date Sep. 15, 1999)
Spira	US 2003/0172002 A1	Sep. 11, 2003 (filing date Mar. 15, 2001)

All claims on appeal stand rejected under 35 U.S.C. § 103. In a first stated rejection, the Examiner relies upon Willoughby in view of Weinstock, further in view of Goyal as to claims 1 through 3, 12 through 14, 25 through 27, 39 through 41, 50 through 52, and 55. To this initial combination of references, the Examiner further relies upon Spira in a second stated rejection as to claims 4, 15, 19 through 22, 24, 28, 42, and 53. To the references relied upon in the second stated rejection, the Examiner further relies upon Wegerich as to claims 16, 17, 23, 36, 38, 44 through 46, 48, 49, and 57 in a third stated rejection. In a fourth stated rejection of claims 18 and 37, the Examiner relies upon Willoughby in view of Weinstock and Goyal, further in view of Spira, Wegerich, Gross, and Cook. Lastly, in a fifth stated rejection of claims 43 and 56, the Examiner relies upon Willoughby in view of Weinstock and Goyal, further in view of Spira.¹

Rather than repeat verbatim the positions of the Appellants and the Examiner, reference is made to the Brief filed on January 16, 2007, and the Reply Brief Filed on November 26, 2007, for Appellants' positions, and to the Answer mailed on September 24, 2007, for the Examiner's positions.

¹ The Examiner's initial statement of the rejection at page 29 of the Answer fails to list Weinstock. On the other hand, this reference is expressly relied upon by the Examiner at bottom of page 30 of the Answer.

OPINION

For the reasons set forth by the Examiner in the Answer, as amplified here, we sustain each of the five separately stated rejections that encompass all claims on appeal. The Brief does not argue any dependent claim on appeal and appears to argue all independent claims collectively based upon the positions presented with respect to the independent claims encompassed by the first stated rejection as set forth at pages 11 through 15 of the principal Brief on appeal. With respect to all rejections and all independent claims, the commonly argued feature relates to the concept of visualizing the reliability analysis in a movie mode display, which feature appears in each independent claim on appeal and is the sole feature argued for each of the separately stated rejections.

Appellants have the burden on appeal to the Board to demonstrate error in the Examiner's position. *See In re Kahn*, 441 F.3d 977, 985-86 (Fed. Cir. 2006) ("On appeal to the Board, an applicant can overcome a rejection [under § 103] by showing insufficient evidence of *prima facie* obviousness or by rebutting the *prima facie* case with evidence of secondary indicia of nonobviousness.") (quoting *In re Rouffet*, 149 F.3d 1350, 1355 (Fed. Cir. 1998)).

"Section 103 forbids issuance of a patent when 'the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said

subject matter pertains.” *KSR Int’l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1734 (2007).

The Supreme Court reaffirmed principles based on its precedent that “[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.” *KSR*, 127 S. Ct. at 1739. The operative question in this “functional approach” is thus “whether the improvement is more than the predictable use of prior art elements according to their established functions.” *Id.* at 1740. The Court noted that “[c]ommon sense teaches . . . that familiar items may have obvious uses beyond their primary purposes, and in many cases a person of ordinary skill will be able to fit the teachings of multiple patents together like pieces of a puzzle.” *Id.* at 1742.

The Federal Circuit recently concluded that it would have been obvious to combine (1) a device for actuating a phonograph to play back sounds associated with a letter in a word on a puzzle piece with (2) a processor-driven device capable of playing the sound associated with a first letter of a word in a book. *Leapfrog Enters., Inc. v. Fisher-Price, Inc.*, 485 F.3d 1157, 1161 (Fed. Cir. 2007). In reaching that conclusion, the Federal Circuit recognized that “[a]n obviousness determination is not the result of a rigid formula disassociated from the consideration of the facts of a case. Indeed, the common sense of those skilled in the art demonstrates why some combinations would have been obvious where others would not.” *Id.* at 1161 (citing *KSR*, 127 S. Ct. 1727, 1739 (2007)). The Federal Circuit relied in part on the fact that Leapfrog had presented no evidence that the inclusion of a reader in the combined device was “uniquely challenging or

difficult for one of ordinary skill in the art” or “represented an unobvious step over the prior art.” *Id.* (citing *KSR*, 127 S. Ct. at 1740-41).

In the absence of separate arguments with respect to claims subject to the same rejection, those claims stand or fall with the claim for which an argument was made. *See In re Young*, 927 F.2d 588, 590 (Fed. Cir. 1991). *See also* 37 C.F.R. § 41.37(c)(1)(vii)(2004).

Dovetailing with this precedent, we note further that the test for obviousness has been further characterized as not whether the features of a secondary reference may be bodily incorporated into the structure of a primary reference. It is also not that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. *In re Keller*, 642 F.2d 414, 425 (CCPA 1981); *In re Young*, 927 F.2d 588, 591 (Fed. Cir. 1991).

The prior art relied on to prove obviousness must be analogous art. As explained in *Kahn*,

the ‘analogous-art’ test . . . has long been part of the primary Graham analysis articulated by the Supreme Court. *See Dann v. Johnston*,] 425 U.S. [219,] 227-29 (1976), *Graham*, 383 U.S. at 35. The analogous-art test requires that the Board show that a reference is either in the field of the applicant’s endeavor or is reasonably pertinent to the problem with which the inventor was concerned in order to rely on that reference as a basis for rejection. *In re Oetiker*, at 1447. References are selected as being reasonably pertinent to the problem based on the judgment of a person having ordinary skill in the art. *Id.* (“[I]t is necessary to consider ‘the reality of the circumstances,’ - in other words, common sense-in deciding in which fields a person of ordinary skill would reasonably be expected to look for a solution to the problem facing the invention.” (quoting *In re Wood*, 599 F.2d 1032 (C.C.P.A. 1979))).

Kahn, 441 F.3d at 986-87. *See also In re Clay*, 966 F.2d 656, 659 (Fed. Cir. 1992) (“[a] reference is reasonably pertinent if, even though it may be in a different field from that of the inventor’s endeavor, it is one which, because of the matter with which it deals, logically would have commended itself to an inventor’s attention in considering his problem.”).

The Examiner’s analysis is amplified by the following remarks that are consistent with the standards set forth by the above-noted case law. A position at pages 14 and 15 of the principal Brief on appeal that Goyal is not analogous art is directly addressed by the Examiner at pages 40 through 42 of the Answer, the Examiner’s positions with which we fully agree. Moreover, our subsequent analyses of this reference will emphasize its analogousness at least from the perspective that Goyal is reasonably pertinent to the particular problems with which the inventors’ were involved. Appellants’ positions throughout the Brief and Reply Brief with respect to this reference present only a very limited view of its teachings. As indicated earlier in this opinion, it is the teaching value of this reference that must be considered within a proper analysis within 35 U.S.C. § 103 and not its discrete, focused environment or application.

Page 2 of the Reply Brief makes passing mention with respect to the *KSR* case law, but the positions in this Reply Brief tends to repeat positions already set forth in the principal Brief on appeal. With respect to the combinability issues set forth at pages 12 through 14 of the principal Brief on appeal, Appellants do not argue that Willoughby and Weinstock are not properly combinable within 35 U.S.C. § 103, only that the Goyal patent would not have been obvious to have been combined with Willoughby and

Weinstock. Thus, any attempt to argue the combinability of Willoughby and Weinstock or otherwise reargue them in the paragraph bridging pages 2 and 3 of the Reply Brief has been waived. Page 2 of the Reply Brief states that Appellants “have repeatedly stressed, however, that it is the combination of Goyal with the other references that the Examiner’s rejection is lacking.”

Appellants’ basic position with respect to Goyal is that this reference bears no relation to reliability analysis. With this view, we strongly disagree. The view taken at the top of page 12 of the principal Brief that it was not known in the art to present reliability analysis in a movie mode type of display and that none of the references teach such a display with reliability analysis is misplaced. We do not have before us any rejection under 35 U.S.C. § 102. As the reader will understand in subsequent paragraphs, Goyal does have significant teachings beyond the mere display of movie mode for displaying parts as asserted at the top of page 12 of the principal Brief. That Goyal does not display any reliability analysis whatsoever is not dispositive of its combinability or teaching value with the teachings of Willoughby and Weinstock within 35 U.S.C. § 103.

The Examiner’s claim interpretation analysis at pages 3 through 5 of the Answer, making appropriate reference to certain specification paragraphs and pages and figures, is more instructive to us than the summary of the invention provided for each independent claim at pages 2 through 9 of the principal Brief on appeal.

With respect to the Examiner’s reasoning of combinability at pages 6 through 8 of the Answer as applied to Willoughby, Weinstock, and Goyal in the first stated rejection, the Examiner adds to this reasoning at pages 32

through 40 of the Answer where the Examiner more persuasively and expansively treats the teaching value of each reference to correctly justify the Examiner's view that we find is consistent with the above-noted case law. Thus, we do not see any prohibited hindsight (Brief at 13) exhibited by the Examiner's positions. They are essentially prospective in nature. These additional positions by the Examiner are directly responsive to the positions set forth by the Appellants at pages 11 through 15 of the principal Brief on appeal.

From our perspective, Willoughby essentially defines reliability analysis at column 1, lines 11 through 17, which indicates that reliability occurs over time. This background analysis in Willoughby is consistent with Appellants' observations with respect to this term beginning at Specification page 1, where the prior art is discussed by Appellants. In the paragraph bridging Specification pages 1 and 2, it has been recognized by Appellants that prior art software packages were known to perform reliability analyses but with certain alleged disadvantages. Of particular note here is the existence of the known simulation-based methods at the top of page 2 of the Specification as filed. Appellants' interactive graphic-based reliability analysis tool 28 in figure 2 is used in the simulation environments disclosed in Appellants' figures 20 and 21. Specification page 10 in paragraph [0039] notes that the visualization component 36 in figure 2 presents the results of the reliability analyses to a user within a graphical framework that include charts, graphs, plots, and movie mode displays. The applied prior art presents to the user reliability analysis in the same forms.

In addition to the background assessment in Willoughby with respect to reliability analysis, the Examiner relies upon database program 845 in figure 9 that includes a graphical front-end module (called V-GRAPH) that is utilized to present to the user his reliability analyses contributions in the art, graphically best illustrated at least with the various parts of figure 12 as relied upon by the Examiner.

Correspondingly, Weinstock teaches a graphical interactive display environment that presents not only a hierarchy of displayed data elements as alleged by the Examiner but also has significant teachings and showings with respect to simulation abilities of this reference. Figure 1 initially shows the graphical capability within item number 24. Figures 5A-5C illustrate the time line depiction requirement and the simulation ability within the analysis module in figure 5C. Figure 16 also shows a simulation ability. Overall, even the abstract of Weinstock illustrates a risk modeling capability of the system. The graphing capability in figure 1 is with respect to event sequential diagrams (ESDs) which are built in figure 4 and which are associated with time line analyses is figure 5A-5C and illustrated with respect to specific physical elements such as shown in figure 27.

The interactive capabilities of the previous references, and more specifically the graphical and simulation capabilities of Weinstock, are illustrated in the modeling/simulation teachings in Goyal. The modeling system 101 in figure 1 makes use of a graphical display terminal 103 to show or otherwise simulate the dynamics of particular discrete elements in physical systems. Exemplary physical world applications are listed at column 1 to include simulation activities or dynamics or motion depictions

of physical systems and interactions of them with each other. Motion of physical models is illustrated in a dynamic fashion in Goyal. State changes in physical systems over time are also illustrated. A prior art modeling system is utilized in Goyal system as noted at column 29, beginning at line 4 to include the interactive visualization capabilities noted at column 30, line 15. These include visualization capabilities as a part of the simulation/modeling aspect of this reference which is said to include a movie playback mode for simulating in real time events in the physical world. These considerations in Goyal are summarized in the conclusion portion at column 31 as set forth at lines 40 through 45. An advantage of such an approach is the flexibility of focusing on particular objects or particular areas of interest to permit real time visualization in slow motion or fast motion playback.

The Examiner's apparent sole reliance upon Goyal is based upon the claims of this reference, which approach is disfavored. The above-noted teachings on which the Examiner's positions are based briefly outlined by us are not only compelling of the combinability with the outlined teachings in Willoughby and Weinstock, the artisan also would well appreciate that the teachings of graphical and simulation processes in Weinstock build upon the graphical teachings in Willoughby. The graphical simulation capabilities in Weinstock also build upon the admitted prior art teachings noted by the Appellants at page 2 of the Specification as filed. Significantly, the artisan would then well-appreciate the modeling and simulation teachings of Goyal as further emphasizing that, for time sequenced events, they may be best physically depicted in a corresponding time sequenced manner to the user,

such as the well recognized movie mode capabilities detailed in Goyal for interactive, graphical illustrations of events that occur dynamically in such a time sequenced environment. Overall, the actual teachings of the applied prior art, when considered in this manner, compellingly indicate the obviousness of the subject matter of the claims argued on appeal.

In view of the foregoing, the decision of the Examiner rejecting all claims on appeal under 35 U.S.C. § 103 is sustained since Appellants have not presented convincing arguments of error of the Examiner's positions and rejections. Therefore, the decision of the Examiner is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). See 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

pgc

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